

AMENDMENT OF THE CLAIMS:

Please amend claims 114 and 115 and cancel claim 116 without prejudice or disclaimer. This listing of claims replaces all prior versions, and listings of claims, in the application.

Listing of Claims:

- 1-49. (Cancelled)
- 50. (Previously Presented) The method of claim 92, wherein the cell is a plant protoplast.
- 51. (Previously Presented) The method of claim 50, wherein the SATAC comprises heterologous DNA that encodes a gene product.
- 52. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by cell fusion, lipid-mediated transfection by a carrier system, microinjection, microcell fusion, electroporation, microprojectile bombardment, or direct DNA transfer.
- 53-72. (Cancelled)
- 73. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by direct DNA transfer.
- 74. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by cell fusion.
- 75. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by lipid-mediated transfection by a carrier system.
- 76. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by microinjection.
- 77. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by microcell fusion.
- 78. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by electroporation.
- 79. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by microprojectile bombardment.
- 80. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by direct DNA transfer.
- 81. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by cell fusion.

82. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by lipid-mediated transfection by a carrier system.

83. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by microinjection.

84. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by microcell fusion.

85. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by electroporation.

86. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by microprojectile bombardment.

87. (Previously Presented) The method of claim 51, wherein the gene product confers disease resistance to the transgenic plant.

88. (Previously Presented) The method of claim 50, wherein the plant protoplast is selected from a monocot, a dicot and an algae.

89. (Previously Presented) The method of claim 88, wherein the plant protoplast is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

90. (Previously Presented) The method of claim 51, wherein the plant protoplast is selected from a monocot, a dicot and an algae.

91. (Previously Presented) The method of claim 90, wherein the plant protoplast is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

92. (Previously Presented) A method for producing a transgenic plant, comprising introducing a satellite artificial chromosome (SATAC) into a plant cell; and
growing the plant cell under conditions to produce a transgenic plant.

93. (Previously Presented) The method of claim 92, wherein the plant cell is contained in a plant organ or embryoid.

94. (Previously Presented) The method of claim 92, wherein the plant protoplast is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

95. (Previously Presented) The method of claim 92, wherein the SATAC comprises heterologous DNA.

96. (Previously Presented) The method of claim 95, wherein the heterologous DNA encodes a gene product.

97. (Previously Presented) The method of claim 96, wherein the gene product confers disease resistance to the transgenic plant.

98. (Previously Presented) The method of claim 95, wherein the plant cell is selected from a monocot, a dicot and an algae.

99. (Previously presented) The method of claim 95, wherein the plant cell is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

100. (Previously Presented) The method of claim 92, wherein the SATAC is introduced by direct DNA transfer.

101. (Previously Presented) The method of claim 92, wherein the SATAC is introduced by cell fusion.

102. (Previously Presented) The method of claim 92, wherein the SATAC is introduced by lipid-mediated transfection by a carrier system.

103. (Previously Presented) The method of claim 92, wherein the SATAC is introduced by microinjection.

104. (Previously Presented) The method of claim 92, wherein the SATAC is introduced by microcell fusion.

105. (Previously Presented) The method of claim 92, wherein the SATAC is introduced by electroporation.

106. (Previously Presented) The method of claim 92, wherein the SATAC is introduced by microprojectile bombardment.

107. (Previously Presented) The method of claim 95, wherein the SATAC is introduced by direct DNA transfer.

108. (Previously Presented) The method of claim 95, wherein the SATAC is introduced by cell fusion.

109. (Previously Presented) The method of claim 95, wherein the SATAC is introduced by lipid-mediated transfection by a carrier system.

110. (Previously Presented) The method of claim 95, wherein the SATAC is introduced by microinjection.

111. (Previously Presented) The method of claim 95, wherein the SATAC is introduced by microcell fusion.

112. (Previously Presented) The method of claim 95, wherein the SATAC is introduced by electroporation.

113. (Previously Presented) The method of claim 95, wherein the SATAC is introduced by microprojectile bombardment.

114. (Currently Amended) The method of claim 92, wherein the satellite artificial chromosome is a ~~plant~~ satellite artificial chromosome that includes a plant centromere.

115. (Currently Amended) The method of claim ~~114~~ 92, wherein the ~~plant~~ satellite artificial chromosome is produced by a method comprising:

introducing one or more DNA fragments into a plant cell, wherein the DNA fragment or fragments comprise a selectable marker,

growing the cell under selective conditions to produce cells that have incorporated the DNA fragment into their genomic DNA,

selecting a cell that comprises a ~~plant~~ satellite artificial chromosome.

116. (Cancelled)

117. (Previously Presented) The method of claim 114, wherein the satellite artificial chromosome comprises heterologous DNA.

118. (Previously Presented) The method of claim 117, wherein the heterologous DNA encodes a gene product.

119. (Previously Presented) The method of claim 118, wherein the gene product confers disease resistance to the transgenic plant.

120. (Previously Presented) The method of claim 114, wherein the plant cell is selected from a monocot, a dicot and an algae.

121. (Previously Presented) The method of claim 114, wherein the plant cell is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

122. (Previously Presented) The method of claim 114, wherein the satellite artificial chromosome is introduced by direct DNA transfer.

123. (Previously Presented) The method of claim 114, wherein the satellite artificial chromosome is introduced by cell fusion.

124. (Previously Presented) The method of claim 114, wherein the satellite artificial chromosome is introduced by lipid-mediated transfection by a carrier system.

125. (Previously Presented) The method of claim 114, wherein the satellite artificial chromosome is introduced by microinjection.

126. (Previously Presented) The method of claim 114, wherein the satellite artificial chromosome is introduced by microcell fusion.

127. (Previously Presented) The method of claim 114, wherein the satellite artificial chromosome is introduced by electroporation.